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ABSTRACT

This conference report is divided into two main sections: one covering the team planning approach to remodeling and constructing school facilities; the other reviewing the idea of deliberate planning for functional school use. A public school superintendent, a sociologist, and four architects shared their experiences with the conference participants. Topics included the redesign of an entire school district whose facilities had been allowed to deteriorate and become outmoded over the past decades, the restoration of two old and abandoned high schools in a large urban area in New England, the continuous planning for refurbishing aging school buildings in the nation's capital, the prevention of school vandalism by intelligent design to accommodate nonmalicious vandalism and rough play, and some examples of how informed and careful planning can recapture from threatened decay and disuse certain types of noneducational structures for school use. (Author/MLF)

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RECYCLING SCHOOL FACILITIES

A Summary

of a Conference

sponsored by the

New England School Development Council
March 8, 1974
at
The Sheraton Rolling Green Motor Inn
Andover, Massachusetts

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CONFERENCE PROGRAM

STRATEGIES FOR A COMPREHENSIVE REHABILITATION PLAN FOR AN ENTIRE DISTRICT

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OPTIONS IN MODERNIZATION OF SCHOOL BUILDINGS

William L. Ensign

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FEASIBILITY OF SCHOOL BUILDING REHABILITATION IN HARTFORD, CONNECTICUT

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ENCLOSED OPEN SPACE

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VANDALISM AND SCHOOL BUILDINGS

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INTRODUCTION

The format of the conference brought together approximately 150 New England school administrators, teachers, and school committee members who concentrated in a series of nine group sessions with a rather wide variety of experts in the field of school facilities planning. A public school superintendent, a sociologist, and four architects shared their various experiences with the conference participants in the area of school facilities planning, including the redesign of an entire school district whose facilities had been allowed to deteriorate and become outmoded over the past decades; the restoration of two old and abandoned high schools in a large urban area in New England; the continuous planning for refurbishing aging school buildings in the nation's capital; and some fascinating examples of how informed and careful planning can recapture, from threatened decay and disuse, certain types of non-educational structures for school use.

The conference participants were impressed with the uniform emphasis each of the experts placed upon *careful* planning before money is committed, architects are chosen, and sites are selected. Most explicitly spelled out in this preplanning is the idea that the planning be of a team organization that included school administrators, a design or planning architect, teachers, and parent/community representation. This team would set about the task of making a thorough analysis of the community's educational direction, school facilities as they exist, educational needs as they appear to be for the future, and educational specifications to fit those needs. Armed with this data, the team would then turn to the tasks of selling the plans to the community, passing the necessary bond issues, and engaging project architects. During

the actual remodeling and construction involved in the plans for the educational facilities, this planning team would oversee the work in progress to insure that the approved and funded project was going as the plans specified.

An added feature to this concept of planning for educational facilities remodeling and construction was the idea of planning directly and deliberately for the specific kinds of uses and abuses school facilities are so often subjected to in the course of a school day. This phase of pre-planning involved designing practical, functional space within the building—especially in a building used to house the open classroom concept. Further, the conference participants heard about planning for both exterior and interior abuse before, not after, the fact. A building designed for the wear that children are liable to give it will serve the community much better than one designed for economy or beauty, but without reference to the types of activities that will actually go on in and around the school building.

This conference report is divided into two main sections: one covering the team planning approach to remodeling and construction of school facilities; the other reviewing the idea of deliberate planning for functional school use. Under the team approach heading, the experiences of Superintendent David L Moberly in Cleveland Heights, Ohio, and those of Architects David N. LaBau and Donald C. Hughlett in the City of Hartford, Connecticut, will be featured in detail. And under the planning for functional school use heading, the experiences and ideas of Architects William Ensign and David Huie on the redesign of older buildings for school use will be covered along with Sociologist John Zeisel's findings on the subject of school vandalism and its prevention.

THE TEAM APPROACH TO SCHOOL FACILITIES PLANNING

Cleveland Heights / University Heights, Ohio

When Dr. David Moberly took over as superintendent of schools in the Cleveland Heights / University Heights School District in 1972 he had to come to grips with a rather sobering situation. The two suburban cities outside of Cleveland were the last remnants of an old guard suburbia that grew up on Cleveland's east side during the teens and twenties. With modern population shifts the two communities were showing evidence of early decay creeping in from Cleveland. The schools which housed the cities' 12,000 pupils were built during the early quarter of the century and were now showing their age and their wear.

The Board of Education voted him an operating levy and presented him with a mandate to modernize their educational facilities. Painfully aware of his shortcomings in the realm of school construction, Moberly decided to go with his strength, school management, and he decided to approach the task from a management point of view but informed the Board that he wanted—needed—a free hand in undertaking the enormous task. His request was granted by the Board so he decided to stake his reputation on this $20,000,000 operation to reconstruct the educational facilities in Cleveland Heights / University Heights so they would be viable through the year 2000 AD.

He called his administrative staff together and they reviewed the entire operation that faced them. The school district had 16 schools in various states of disrepair and their charge was to replace or update and modernize all of them

so that they met specifications for a school building for 1980. The management team first decided to stay with their own expertise and seek expert help and advice where they were unsure of themselves. Moberly, they decided, would oversee the entire operation, while the Assistant Superintendent for Instruction would handle matters dealing with specifications for instructional space, and the district business manager would take care of the mechanical specifications. They also decided to hire a design coordinating architect who would oversee the project from the drawing board to turnkey status. He would not, however, actually design or construct any of the actual buildings. His job would be to remain as neutrally concerned with the best interests of the district as is humanly possible, so it was clearly understood from the very beginning that his would be solely the role of the design coordinator.

The administrative team then decided to launch a public relations campaign to gain popular support for the overall project and to involve as many citizen groups as possible in the planning, itself. Consequently, a series of parent-teacher-citizen groups was formed into different kinds of mayvins*. There were classroom mayvins, shop mayvins, gym mayvins, auditorium mayvins—a group of mayvins was convened to address itself to virtually every aspect of the project. When the team was finally assembled and in operation, several major decisions were made. First, it was decided to look at the project of refurbishing the entire school district from a system-wide viewpoint. All schools were to be reviewed with flexibility being the most desirable feature of every building—so that each building could move with the times whether they called for open, partially open, or completely closed spaces. Next, it was decided to have a multi-media center as the heart of every building, and, finally, they moved to design the auditoriums in each of the junior and senior high schools so that they could be used as instructional space during the school day, as well as for musical, dramatic, and mass meet-

*Mayvin is a Yiddish word meaning: expert.

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ing purposes during those times when this use of the facility was called for. But, the auditorium definitely was not to become fallow space during the school year, to be used only for the dozen or so times a year that public performances are held.

The team then decided to make a thorough analysis—building by building—of just what the dimensions of the tasks were in each of the 16 buildings. Decisions were reached to close one junior high school building and redistrict the remaining three. As an aside, this decision forced racial balancing to be distributed more evenly since the closed school served a predominantly black district. Four of the twelve elementary schools were within $200,000 of replacement cost, so it was decided to build new buildings for these areas. All remaining buildings in the district were to be gutted and space added. Accordingly, major renovations were made at Heights High School, which serves both cities, with the filling in of three quarters of the center courtyard for a multi-media center. Similar additions and redesign operations were undertaken at the junior high schools, as well.

The four elementary schools were basically the same and three of the four new buildings were built on the same sites—inadequate as they were—but land is scarce in these communities. Each of the buildings was to be tri-level using ramps to move from one level to another, and each was of brick construction with a shingle roof. The bottom level held the multi-purpose room, the top level the multi-media center, and the classrooms were wrapped around a central mezzanine. Because the sites were so small, each building was designed to make maximum use of every square foot of interior space.

As of the moment (March, 1974), 12 buildings are under contract, with the remaining four coming in a few weeks. Eight separate project architects have been hired for the project and, thanks to careful planning by the management team, all phases of the operation are on schedule and under their proposed budgets. The team planning approach, especially the use of the design coordinating architect and his consultants, has resulted in several cost-cutting moves along the line. All hardware such as rooftop units, vents, lighting fixtures, and

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the like, was separately pre-bid, as were all the window units in the buildings because they were of the same size and design throughout the system.

This pre-bidding alone has been estimated as saving some quarter of a million dollars for the school district. Similarly, all carpeting and furniture throughout the system will be pre-bid later in the project. Savings were also realized by making system-wide decisions, wherever possible, and by the use of the design coordinating architect who worked for 25 percent of the overall architect's fee, while the eight project architects were paid the remaining 75 percent of the fee. This scheme served to control the budget, keep everyone "honest," schedule the project so that no contingency costs for delay would be added to the overall budget. The costs were set and maintained at a low level for each building and with but a 10 percent contingency budget, money was saved all along the way. The original cost analysis of each building made each and every decision a thoroughly informed one and this also reduced the overall costs.

The original package was sold to the Cleveland Heights / University Heights communities as a boost for the community in terms of added prestige, better quality education, and as an addition to the overall value of the local real estate. So, through careful management, a sensitive eye toward the socio-political climate, and careful scrutiny of every detail of the vast undertaking, Cleveland Heights / University Heights will have in 1976 what the *Cleveland Plain Dealer* Sunday Supplement referred to as "new learning environment. . . for the first time anywhere an established school system being completely redone and standardized as opposed to replacing one old school building every five or ten years."

For one, Superintendent Moberly of the Cleveland Heights / University Heights School District is sold on the management-oriented, team approach to system-wide rejuvenation of old and tired school facilities. And his enthusiastic, energetic, and most persuasive description of his experiences at the NESDEC conference left its impact on all of the participants who heard him.

Hartford, Connecticut

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The Hartford story is similar to the Cleveland Heights / University Heights experience except that it was told to the conference participants, not by the superintendent of schools, but by the coordinating architects, David N. LaBau, A.I.A., and Donald Hughlett, A.I.A. In this instance the south side of the city needed a facility study in order to draw up an overall plan of action for the replacement and/or restoration of aging and deteriorating school buildings. The School Board already had a well detailed set of educational specifications for the existing problem, and what was needed was an in-depth analysis, building by building, of the condition of the existing buildings and to what future use they might be put by the city. Accordingly, bids were put out for a coordinating architect to conduct the study, make recommendations, and oversee the project once it had gotten under way.

The firm of Golden, Thornton, and LaBau, Inc. was awarded the contract to carry out the study and the first thing they did was to put together a good working team of cost consultants, mechanical engineers, and structural engineers, all of whom worked closely with the City Council and the Board of Education to get a handle on the problem and launch the study. It was early decided that the coordinating architects would oversee the project but would have no stake in the actual building. This would be done by project architects that the coordinating architects would hire when the time came.

The team launched the study of the existing buildings and evaluated each according to two basic sets of criteria. One set involved questions of physical aspects of the building—does it conform to the city's building code? A second question dealt with the planned educational program to be accommodated by the building—would the building fit the program? And third, social aspects of the building had to be considered, for the evaluating team discovered that some of the school buildings in the city had great sentimental value for the citizens in the neighborhood who had, as students, attended the school. With other schools, the neighborhood re-

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action was bitter and intolerant of any idea of keeping school buildings that represented failure and despair to them and their children.

A deeper analysis of each of the buildings in question involved such issues as:

1. The overall physical condition of the building—had it stood the test of time?
2. The structural capabilities or limitations of the building.
3. The mechanical systems in the building.
4. The existing space limitations—the location of load-bearing walls, for example.
5. Its adaptability to modern educational programs—could it house an open classroom concept of school organization?
6. The useful life expectancy of the building—this was the key to justify spending money on the building.
7. Could it be made to conform to existing building codes for a rehabilitated school building?
8. The suitability of the site where the building was built, land being a scarce commodity in an urban setting.
9. The suitability of the location of the building—was the building serving the same neighborhood it was built to serve or had population shifts made the location of the building undesirable?
10. The effect of the state reimbursement formula—would the city save or lose money by restoring or rebuilding?
11. Community attitudes—did the community favor the middle school organization or the old six grade elementary school?
12. What were the possible busing requirements and district structures?

This type of evaluation and analysis of the existing situation resulted in the development of three options for each of the five schools in question. This report was brought to the Hartford Board of Education and was returned to the coordinating architects with the injunction to make a final decision regarding the possible options that had been developed. This was done with the recommendation that the city make the following five moves:

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1. Three elementary schools in the city be demolished.
2. The two abandoned high schools be refurbished for use as elementary schools to serve the populations of the demolished schools indicated in number one.
3. A new middle school be constructed.
4. A new elementary school be constructed.
5. An existing elementary school remain in service as needed with the continuation of normal maintenance service.

The entire package would cost the city some $15,000,000.

The coordinating architects went for a design which called for multi-instructional areas with between 75 and 150 youngsters per area. The general pattern of construction and restoration was for a corridor structure supported by columns leaving no load-bearing walls. Some of the buildings also had a floor of traditional classrooms to offer maximum organizational and program flexibility.

This team approach to facility planning and construction has proved, in the minds of these coordinating architects in Hartford, to be a viable and economical way to approach the need for new facilities.

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PLANNING FUNCTIONAL SCHOOL FACILITIES

Modernization

William Ensign, F.A.I.A., a Washington, D.C. architect, offered the conference participants a slide lecture illustrating some of his ideas and experiences with the conversion of old buildings to educational use. He emphasized that, despite the population decline the country is now experiencing, our nation's school systems are still some three quarters of a million classrooms short. The financial crunch precludes new school construction in many communities across the country, so many schoolmen are turning with renewed interest toward the idea of modernizing and/or redesigning old buildings for instructional use at a fraction of the cost in both time and money.

The shortage of classroom space is due, not entirely to population growth, but also to the fact that the modern school allocates instructional space within a school building much differently than was the case some decades ago. Teachers' planning areas, multi-media resource centers, small group instructional space for school specialists have all eaten into the building space that was once the complete domain of the traditional classroom in the egg-crate schoolhouse of the forties and the fifties. Beyond this, it has been estimated that some one-third of all schools in urban areas are more than a half century old.

Buildings with instructional space to accommodate modern educational methods and practices will have to be provided in the years immediately ahead—but, clearly, without enormous expenditures of the taxpayers' money. How to do it? Ensign had some suggestions that are engagingly novel and disarmingly simple.

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He spoke first of what he called *found space*—this being space in older buildings traditionally not used for instructional purposes, such as wide halls and foyers, abandoned vent rooms, and unfinished basement areas in school buildings, that could easily and inexpensively be converted into teaching/learning areas of immense value to a schoolhouse everyone thought was bursting at the seams. In one of his illustrations he showed a picture of an old gymnasium with the overhead indoor track around its upper circumference. The next slide showed both the old gym and the overhead track transformed into a library with a balcony for the storage of additional books and for quiet, undisturbed study. He maintained that virtually every older schoolhouse he had ever seen had this type of hidden space which could easily be architecturally "found," and added that in many cases, these spaces which had been transformed into educational areas possessed a certain warmth and charm only found in older buildings. This, he contrasted to the cold, arid, straight-line designs found in more modern buildings.

He showed synagogues, banquet halls, old department stores with escalators preserved, Chinese restaurants, factories, and warehouses located in New York City—all which had been transformed into functional and attractive schoolhouses. He spoke of placing playgrounds on top of buildings in the city where land is scarce, and of retaining old fixtures where feasible to try to preserve much of the old charm of these modernized buildings. He spoke of an effort in Washington, D.C. to preserve historic buildings, such as the old post office that his firm converted into a library for the new Federal College. In Grand Rapids an old abandoned railway station cried for new life—so it became a school. Loop College, in Chicago, is converting a seventeen story office building for instructional use. In Pittsburgh, in Virginia, and in Columbia, Maryland, old estates, town houses, barns, and stables have all found a new lease on life by being converted for educational purposes.

Ensign also spoke of sharing educational space with other community organizations—bringing the school back

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within earshot of the community heartbeat. Why not locate a school in a shopping center, using the movie theatre for audio-visual activity and for assemblies, presentations, and dramatic events? Shared space is being built in Pontiac, Michigan, Philadelphia, and Atlanta. Why have several complementing social agencies scattered around a community when they could all function more efficiently and effectively under the circumstances of shared space? It's less expensive, more convenient, and more attractive for the community making use of such agencies. This is, basically, the community school idea expanded into a pooling of community agencies on a given site. People need to be close to their schools and, certainly, the schools need to become closer to the people.

Schoolmen, he concluded, need to take the long range view, which he called *life cycle costing* and *value engineering*, in determining whether or not to restore or replace an aging building, or whether to invest in a more expensive piece of heating equipment that will outlast and, therefore, be less expensive in the long run, than the cheaper piece of equipment offered by the low bidder. It's a new ball game for the school superintendent facing the choices he has to make to supply his system with additional instructional space, and Ensign's talk was rich in suggestions for how to make some of those crucial choices in the immediate future.

David L. Huie confined his remarks to what he called *Enclosed Open Space*, an idea he and his colleagues in the Washington, D.C. public schools developed when faced with the task of scheduling the restoration of old school buildings for more modern educational methodologies, such as the open classroom concept. Working on a budget that basically would not permit expensive renovation, Huie concentrated instead on making the most of the space that was there. And this was, in virtually every case, the traditional four-walled classroom. His problem was how to create open space in an enclosed area.

His essential approach was to strip the room to bare floor and bare walls and literally to create space where no one had ever seen it before. Carpeting the room created sitting

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space on the floor; bringing blackboards to the floor created instructional space for children using the floor for learning; using flexible multi-use edu-cubes for seating and tables created instant desk and chair space; putting coat racks on casters and using the back side of them for tackboard proved most functional. Using wall space for dramatic graphics and stimulating color made the dead wall come alive and function for the benefit of the learner. And, probably most important of all, a highly imaginative and maximally flexible use of floor space as a center arena, various resource centers, quiet reading or conference corners, project areas, book nooks, teacher prep areas, and small group spaces made the traditional four-walled classroom not only unrecognizable, but virtually ten times its original size.

Vandalism

The essential feature of Dr. John Zeisel's presentation was that vandalism simply doesn't happen as often nor as intensely to a school building that has been carefully designed to accommodate what he calls non-malicious vandalism and rough play. Design a school building, he argues, for use and for rough play—that can, literally, take all that the kids can dish out to a building. If the building is to be for them, then make it so that they can use it—as kids do and will, thoughtlessly, roughly, and intensely. What the design architect needs to do is to plan his building for the kids, not protect it from them. And he points to five critical problem areas:

Roof Access – Why build schoolhouses that can be climbed on and provide what can best be called dangerous but attractive nuisances, when a little forethought can plan away that problem before it ever arises or appears on a new building?

Entrances – If breaking and entering is a problem in the district where a new school is anticipated, then don't build an attractive new school with an inviting front entrance. The front entrance should not say, "Come in" when the building is closed and empty at night, so why not provide for this by designing a steel curtain that can be drawn when the building

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is not in use and that will insure that the front entrance says what you want it to say when it is closed as well as when it is open? Why load a door with outside hardware when it is intended only for egress? If the school is to be used for community purposes after school hours, this kind of forethought can solve a great many problems before they ever get a chance to surface.

Rough Play Areas – Where will formal games be played both within and outside the building? Where will "pick-up" games be played? Design for the hangout areas that every building is sure to have, so that it becomes a place for the kids to use rather than a place to be watched by some shattered teacher who should be resting by herself.

Graffiti – A light smooth surface gets written on sooner and more often than other kinds of surfaces both inside and outside the building. Design places on which kids can write and design, and choose a rough surface for other areas in the building where kids are not to scribble. Give some thought to the attractive and homey possibilities of a building that invites kids to draw pictures, paint, and chalk on walls for deliberate decorative purposes as part of the intentional design of the building. How about a wall that invited graffiti–what Zeisel calls decorative graffiti–that could easily be washed clean each new year or each semester?

Surfaces – Design your building surfaces, inside and out, for the uses they will get. Select the building materials that will best express what you want the kids to think of that wall, or ceiling, or walkway. Why can't schools look as if kids lived there?

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Additional information and expanded descriptive material covering the discussions at this conference may be secured by contacting the individual members of the conference staff.

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